

REMARKS

In the Office Action of February 3, 2004, the Examiner has noted the provisional election made during a telephone conversation. The election to prosecute claims 11-18 of invention Group II, is hereby affirmed.

The Examiner has rejected claims 11-18 under 35 USC 112, second paragraph, as being indefinite. Claims 11-18 are further rejected under 35 USC §102(b) as being anticipated by or, in the alternative, under 35 USC §103(a) as being obvious over Hulderman et al.

The Office Action of February 3, 2004, has been carefully considered and by this amendment, entry of which is respectfully requested, claims 11-18 remain in the application. Claims 1-10, 19 and 20 have been withdrawn, and claim 11 has been amended. The amendment does not add new matter.

With respect to the rejection of claims 11-18 under 35 USC §112, second paragraph, it is submitted that the claims, as now amended, are in compliance with 35 USC §112. A claim, in order to pass muster under 35 USC §112, need only be clear to one skilled in the art, when read in light of the specification, so as to permit one skilled in the art to define the metes and bounds of the invention. In re Goffe, 188 USPQ 131, 135 (CCPA 1975). Specifically, the language of claim 11 has been clarified, so that the mandrel is now clearly disclosed and claimed. The second paragraph of §112 only requires Applicant to set forth with sufficient particularity his invention so as to permit one skilled in the art to define the metes and bounds of the invention. Applicant submits that one skilled in the art could clearly ascertain the invention that Applicants are intending to define, particularly in light of the amendments and remarks herein.

Applicant respectfully traverses the rejection of claims 11-18 under 35 USC §102(b) or 35 USC §103(a), for the reason that the cited art does not teach, anticipate, or render obvious the invention of Applicant, as now claimed.

The test for determining if a cited document anticipates a claim, for purposes of a rejection under 35 USC §102, is whether the cited document discloses all of the elements of the claimed combination, or the mechanical equivalents, functioning in substantially the same way to produce substantially the same results. As noted by the Court of Appeals of the Federal Circuit in Lindemann Maschinenfabrick GmbH v. American Hoist and Derrick, 221 USPQ 481, 485 (1984), in evaluating the sufficiency of an anticipation rejection under 35 USC §102:

"Anticipation requires the presence in a single prior art reference disclosure of each and every element of the claimed invention, arranged as in the claim."

Furthermore, it is noted in MPEP Section 706 that the standard of patentability to be followed in the examination of a patent application is that which was enunciated by the Supreme Court in Graham v. John Deere, 148 USPQ 459 (1966), where the Court stated:

"Under Section 103, the scope and the content of the prior art are to be determined; differences between the prior art and the claims at issue are to be ascertained; and the level of ordinary skill in the pertinent art resolved."

In considering the Hulderman patent cited by the Examiner, it is respectfully submitted that the Hulderman patent discloses an entirely different technology than that covered by the subject application. The subject invention relates to a mandrel with a controlled-release layer for use in fabricating multi-layer electroformed orifice plates used in such ink jet printing systems. Hulderman et al relates to high through-put manufacture of millimeter wave device housings.

It is respectfully submitted that the Examiner is extending the terms

“photoresist” and “dielectric” beyond the limits of the Hulderman patent to actually include the mandrel of the subject invention which is used in fabricating three dimensional electroformed structures. Hulderman et al does not disclose, teach or claim a mandrel, and only discloses a dielectric substrate and photoresist layers as a step in photoresist material lamination (see col. 12, lines 33-47).

Hulderman et al is directed toward the enormous growth in the wireless communication industry and the need for low cost, high bandwidth, data links, which has resulted in a demand for active circuits that operate at microwave and millimeter wave frequencies. Systems operating at these frequencies are attractive because only a small fractional bandwidth is needed for a high data rate link. Also, they use antennas which can be both directive and small. Communications applications include cell phones, satellite communications, and deep space probes. Other applications include radars (navigational, weather, automotive), radiometers and global positioning systems.

The millimeter wave device of Hulderman et al relate to analog circuits which downconvert a modulated microwave signal to a baseband signal or upconvert the baseband signal to a microwave signal. The baseband signals are lower frequency and can be processed by conventional integrated circuits.

The present invention is directed to ink jet printing applications. Orifice plates with arrays containing thousands of nozzles are required for page-wide continuous ink jet printheads. All of the nozzles must be perfectly formed, all being of uniform size and free of deformities such as flat edges. The nozzles, which are typically about 25 micron diameter, require submicron smoothness. This requires that great care must be exercised to provide metallic substrates free of micron-sized defects. This is an entirely different field of endeavor than the wireless communication industry, which is the focus of Hulderman et al. One looking to provide a mandrel with a controlled-release layer for use in fabricating multi-layer electroformed orifice plates used in such ink jet printing systems

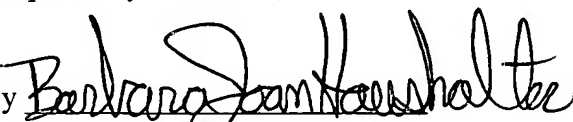
would not be led to the solution of the subject invention by a review of the Hulderman et al patent..

In light of the remarks herein, it is respectfully suggested that none of the claims of the pending application are anticipated or obviated by the cited patent, since that patent fails to disclose the elements of the claimed invention, arranged as in the claim, with the purpose defined in the subject application.

Claims 12-18 depend from independent claim 11 to contain all of the limitations found therein. By the dependency, it is submitted that these claims are not anticipated, taught, or rendered obvious by the cited documents. Additionally, these claims add further limitations which distinguish them patentably from the cited document. Accordingly, withdrawal of the rejection of all of the claims of the application under 35 USC §102(b) and/or 103(a) is respectfully requested.

In view of the foregoing remarks, the undersigned attorney respectfully submits that all of the claims of the application are clearly allowable. Therefore, Applicant's attorney respectfully requests that the Examiner's objections and rejections be withdrawn and that a formal Notice of Allowance be issued thereon.

Respectfully submitted,

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